

REMARKS

Claims 1-42 are pending in this application. The Examiner rejected Claims 18, 19, 37, 38, and 40-42 under 35 U.S.C. 102(e) and allowed Claims 1-17, 20-36 and 39.

Papineni Does Not Anticipate

the Invention of Claims 18, 19, 37, 38, and 40-42

The Examiner rejected Claims 18, 19, 37, 38, and 40-42 under 35 U.S.C. 102(e) as anticipated by U.S. Patent No. 6,246,981 to Papineni et al. ("Papineni"). Applicants traverse these rejections for the reasons discussed below.

Claim 18

Claim 18 corresponds to the third embodiment described on page 80, line 20 to page 89, line 28 of the specification, which corresponds to the third scheme of the invention described on page 23, line 1 to page 24, line 27 of the specification.

In ascertaining and retrieving a retrieval key entered by a user via a speech input from among a number of retrieval key candidates stored in the system, the method of Claim 18 stores retrieval key candidates that are classified according to attribute values, requests that the user enter an attribute value of an attribute item for the retrieval key, obtains a recognition result indicating attribute value candidates and their recognition likelihoods, selects attribute value candidates that have recognition likelihoods that exceed a threshold as attribute value leading candidates, extracts retrieval key candidates that belong to the selected attribute value leading candidates, requests that the user enter the retrieval key, obtains another recognition result, and uses the other recognition result to determine the retrieval key.

In determining the retrieval key, the invention of Claim 18 does not carry out a confirmation process for uniquely determining the attribute value. Instead, the attribute values that have a recognition likelihood greater than or equal to a prescribed likelihood threshold are selected as the attribute value leading candidates, and the retrieval key

candidates that belong to the attribute value leading candidates are extracted (new recognition target data). The user enters a retrieval key via speech input and speech recognition processing is used on the received speech input and the new recognition target data to determine the retrieval key.

The confirmation process for presenting the retrieval key candidates that correspond to the attribute value leading candidates proceeds in descending order of recognition likelihood. In this way, the number of possible recognition targets is narrowed down from the large scale speech recognition database without carrying out a confirmation process for uniquely determining the attribute value, and the confirmation process with respect to the user only needs to be carried out once for the retrieval key determination. This eliminates the repeated confirmation processes required in the conventional attribute value determination and shortens the processing time required for the retrieval key determination.

Papineni describes task-oriented human-computer natural language conversational systems, such as those for providing stock prices, weather reports, or making airline reservations. The cited section of Papineni describes assembling a list of (attribute, value) pairs by a natural language understanding unit 30 using a known statistical parser. Figure 4 of Papineni describes confirmation processing. Papineni fails to teach narrowing down the retrieval key candidates first to the ones corresponding to the attribute value leading candidates and then carrying out a confirmation process for determining the retrieval key from the retrieval key candidates, as required by Claim 18. Accordingly, Claim 18 is not anticipated by Papineni and should be allowed.

Claims 19, 37, 38 and 42

Claims 37 and 42 include similar limitations to Claim 18. The remarks made above in support of the patentability of Claim 18 are equally applicable to distinguish Claims 37 and 42 from Papineni. Claims 19 and 38 depend from independent Claims 18 and 37 respectively. Thus, Claims 19, 37, 38 and 42 should also be allowed.

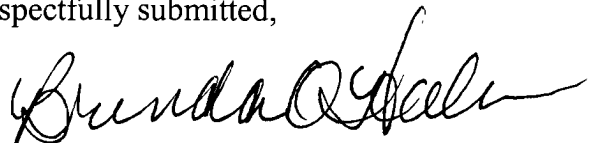
Claims 40 and 41

Claims 40 and 41 are directed to a computer usable medium that stores a data structure that can be used in the method recited by Claims 1 and 13, which were allowed. Claim 40 recites that the recognition target words are divided into prioritized recognition target words and non-prioritized recognition target words, where the prioritized recognition target words constitute a number of data that can be processed within a prescribed processing time. The cited section of Papineni describes a list of (attribute, value) pairs, but does not describe the division of target words or the priority of target words, as recited by Claims 40 and 41.

CONCLUSION

The foregoing is submitted as a complete response to the Office Action identified above. This application should now be in condition for allowance, and the Applicants solicit a notice to that effect. If there are any issues that can be addressed via telephone, the Examiner is asked to contact the undersigned at 404.685.6799.

Respectfully submitted,



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